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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,593	10/19/2001	Ricardo J. Motta	1039.018	1932

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EXAMINER

VILLECCO, JOHN M

ART UNIT PAPER NUMBER

2612

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/001,593

Applicant(s)

MOTTA, RICARDO J.

Examiner

John M. Villecco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/19/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 4-6, 9, 12, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Deng et al. (U.S. Patent No. 6,778,212).**

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

3. Regarding *claim 1*, Deng discloses a digital image sensor (11) configured to generate image signals of a scene, a processor (programmable logic device, 18) that is configured to control operations of the imaging system in one or more operating modes by accessing configurations, and a memory for store configuration data (col. 5, lines 7-15). Deng discloses that the programmable logic controller (18) can be configured to support a wide range of functional parameters and can be programmed by the customer for a variety of purposes. For

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instance the PLD (18) can be configured to adjust the resolution of the image sensor image, adjust the format of the image, or to accommodate a specific manufacturer's software. See column 8, lines 1-38. Since Deng discloses the ability to change how the imager operates, it is interpreted by the examiner that Deng is changing an operating mode.

4. As for *claim 4*, Deng discloses that the configuration files are stored in an external memory, which is part of the imaging system.

5. With regard to *claim 5*, Deng discloses that the configurations may be stored in a external source (col. 5, lines 7-15).

6. Regarding *claim 6*, Deng discloses that different programs, which are interpreted to be new software, are transferred to the PLD (18) from the external source (col. 5, lines 7-15).

7. *Claim 9* is considered a method claim corresponding to claim 1. Please see the discussion of claim 1 on the preceding pages.

8. *Claim 12* is considered a method claim corresponding to claim 4. Please see the discussion of claim 4 on the preceding pages.

9. *Claim 13* is considered a method claim corresponding to claim 5. Please see the discussion of claim 5 on the preceding pages.

10. **Claims 1, 4, 5, 7, 9, and 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Umeda et al. (U.S. Patent Publ. 2002/0145669).**

11. Regarding *claim 1*, Umeda discloses a system-on-chip (SOC) used for capturing and image and processing resultant image signal on the chip using processors. More specifically, Umeda discloses and image sensor (102) for capturing an image of a scene and an interface

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section (108) which acts as the processor since it operates to place the imager into different modes. Umeda discloses several embodiments in which a memory is accessed in order to change the operating mode of the image sensor. In one embodiment Umeda discloses that the interface section (108) selects timing data from a ROM (1011) (paragraph 0185). In another embodiment, Umeda discloses the use of different filter parameters that are used in the video processing circuit (520). See Figures 86 and 87.

12. As for **claim 4**, Umeda discloses that the ROM (1011) and the different filter parameters are disposed in the imaging system.

13. Regarding **claim 5**, Umeda discloses that a command is received through the interface section (108) that caused the imaging system to change its operating mode and thus, its configuration. Therefore, the configuration is accessed from an external source.

14. With regard to **claim 7**, Umeda discloses that the imaging system can be configured to operate in a still mode and a video mode. See Figure 7 and paragraph 0140.

15. **Claim 9** is considered a method claim corresponding to claim 1. Please see the discussion of claim 1 above.

16. **Claim 12** is considered a method claim corresponding to claim 4. Please see the discussion of claim 4 above.

17. **Claim 13** is considered a method claim corresponding to claim 5. Please see the discussion of claim 5 above.

18. **Claim 14** is considered a method claim corresponding to claim 7. Please see the discussion of claim 7 above.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. **Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. (U.S. Patent Publ. 2002/0145669) in view of Chevallier (U.S. Patent No. 6,879,340).**

21. Regarding *claim 2*, as mentioned above in the discussion of claim 1, Umeda discloses all of the limitations of the parent claim. Additionally, Umeda discloses that the image sensor (102), the interface section (108), and the memory are all disposed in a single integrated circuit. Furthermore, Umeda discloses that the image sensor converts the image signals to digital signals using the A/D converter (106) before being read out. Umeda, however, fails to specifically disclose that digital image signals are stored in the memory. Chevallier, on the other hand, discloses that it is well known in the art to include a memory in a SOC for storing the image signals generated by an image sensor. More specifically, Chevallier discloses a CMOS image sensor (14) and a non-volatile memory (34) disposed on the same chip. The substrate (110) also includes an A/D converter (16) for converting the image signals to digital signals before storing them in the non-volatile memory (34). By placing a memory on the same chip as the imager and other components, the cost is lowered and size is reduced. See column 2, lines 35-43. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to include a memory for storing the image data on the chip of Umeda so that the cost of the image sensor is minimized and the size of the chip is reduced.

22. *Claim 10* is considered a method claim corresponding to claim 2. Please see the discussion of claim 2 above.

23. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. (U.S. Patent Publ. 2002/0145669) in view of Anderson (U.S. Patent No. 6,177,957).**

24. Regarding *claim 6*, as mentioned above in the discussion of claim 5, Umeda discloses all of the limitations of the parent claim. However, Umeda fails to explicitly disclose that the imaging system adds new software corresponding to a new operating mode from the external source. Anderson, on the other hand, discloses that it is well known in the art to download new software for carrying out different operations from an external source. More specifically, Anderson discloses that a camera receives new program files that are stored on the removeable memory card (354) and transfers them into the DRAM (col. 10, lines 32-47). Thus the camera is receiving new configuration files from the external device (removeable memory card, 354).

When used in combination with Umeda, one of ordinary skill in the art at the time the invention was made would have found it obvious to add new software features to the imaging system of Umeda in order to enhance the operability of the camera and to keep the camera system updated with new enhanced software specified by the user.

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25. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. (U.S. Patent Publ. 2002/0145669) in view of Osozawa et al. (Japanese Publ. No. 10-322513 A).**

26. Regarding *claim 8*, as mentioned above in the discussion of claim 7, Umeda discloses all of the limitations of the parent claim. However, Umeda fails to explicitly disclose operating the image sensor in a troubleshooting operating mode. Osozawa, on the other hand, discloses that it is well known in the art to place an image sensor into a checking mode, or maintenance service, in order to determine if the image sensor is functioning correctly. See the abstract. By reading out charges from the image sensor based on different driving patterns and comparing these ratios to a reference value, the system can determine the normal or defective operation of the image sensor. This mode is interpreted to be a troubleshooting mode. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to operating the image sensor of Umeda in a troubleshooting mode so that it can be determined if the image sensor is functioning correctly.

Allowable Subject Matter

27. Claims 3 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

28. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3 and 11, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest that the imaging system includes interface

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pins, and a voltage pattern applied to the interface pins determines which configuration is accessed by the processor.

29. Claims 15-20 are allowed.

30. The following is an examiner's statement of reasons for allowance:

Regarding claim 15, the primary reason for allowance is that the prior art fails to teach or reasonably suggest a method of imaging system that includes interface pins; the method including, applying a voltage pattern to the interface pins and accessing a configuration file corresponding the voltage pattern, wherein the configuration pattern corresponds to different operating modes of the imaging system.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John M. Villecco
May 11, 2005



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